Customer Release Note

Open AT® Software Suite v2.21

Reference: **WA_DEV_OAT_CRN_002**

Revision: **001**

Date: **March 30, 2009**

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1 Introduction

1.1 Related Documents

[1]	ADL User Guide for Open AT® OS v6.21	WM_DEV_OAT_UGD_080
[2]	Open AT® FW R73a Release Note	WA_PGM_OASIS_CRN_002
[3]	Open AT® IP Connectivity Development Guide	WM_DEV_OAT_UGD_075
[4]	AT Commands User Guide for Wavecom IP v5.11	WM_DEV_OAT_UGD_076
[5]	WIPSoft v5.11 Release Note	WM_DEV_WIP_CRN_004
[6]	eRide GPS Core Interface	WM_DEV_C-GPS_IFS_003
[7]	C-GPS Development Kit User Guide	WM_DEV_C-GPS_UGD_001
[8]	Technical Specification for Multiplexer protocol	3G TS 27010
[09]	Security User Manual	WM_DEV_SEC_UGD_002
[10]	Jamming Detection Manual	WM_DEV_SEC_UGD_001
[11]	C-GPS OPUS III Development Kit User Guide	WM_DEV_CGPS3_UGD_001
[12]	Open AT® dynamic programming with LUA reference manual	Included within the SDK
[13]	GR Plug-In v2.05 Release Note	WA_DEV_Q64_CRN_005
[14]	Migration Document	WM_DEV_WUP_MEM_022

1.2 Delivered Version Definition

This definition lists all modifications since the **Open AT® Software Suite v2.12 Release.**

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1.3 Correction Severity Levels

The *Severity* values have the following meaning:

- 1: Critical
- 2: Major
- 3: Minor
- 4: Improvement

1.4 Open AT® Software Suite v2.21 SDK Content

- Open AT® M2M Studio 1.0.1 built on Eclipse™
- Open AT® OS v6.21
- Open AT® FW R73a
- Wavecom TCP/IP and Internet v5.10 Plug-Ins version
- Open AT® Security v1.02 Plug-Ins
- Open AT® C-GPS v1.07 Plug-In
- Open AT® C-GPS v3.04 Plug-In
- Open AT® GR v2.05 Plug-In
- Open AT® LUA v1.01 Plug-In
- CMUX tool V2900

1.5 M2M Studio release information

For more information about the integrated M2M Studio version content, please refer to

http://www.wavecom.com/m2mstudio

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2 Open AT® Software Suite v2.21 New Services and Modified Interfaces

2.1 Open AT® OS New Services and Interfaces Break

For more information, please refer to Open AT® OS ADL Update

Please see the Open AT® OS restrictions.

Note that in releases later than Open AT® Software Suite v2.10, the Open AT® Link address has been set to 0x260000. As a consequence of this Open AT® Link address change, it is no longer possible to upgrade firmware with DOTA on 32MBits flash after Open AT® Firmware R72.

2.2 Open AT® TCP/IP and Internet Plug-Ins

For more information, please refer to Open AT® IP Connectivity Development Guide [3] and .AT Commands User Guide for Wavecom IP V5.11 [4]

2.3 Open AT® Security Plug-Ins

For more information, please refer to Security User Manual [09] and Jamming Detection Manual [10].

2.4 Open AT® C-GPS OPUS I - OPUS III Plug-Ins

The Plug-Ins are the same than the ones of Open AT® Software Suite 2.12

Please note that the C-GPS binary format samples are no more provided.

2.5 Open AT® LUA Plug-In

For more information, please refer to Open AT® dynamic programming with LUA reference manual [12] for more details

2.6 Open AT® GR Plug-In

For more information, please refer to GR plug-in Release Note [13] for more details

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3 Open AT® Firmware R73a

3.1 Delivery

The Open AT® Firmware R73a is delivered on the SDK for WMP100/Q2686/Q2687/ WMP50/WMP120/WM150/FSU & variants Wireless CPU® in the Firmware directory.

Please pay attention that the .dwl files provided for the FW R73a configure some e2p fields, customized in production, to default values (GSM/DCS bands, Serial Link Baud rate, Off When Unplug ...)

WARNING: If the original firmware is older than R71, it is mandatory to follow the instructions of the document describing how to migrate to R72 before downloading the dwl files provided for the FW R73a [14]. Otherwise an error message occurs concerning a bad header format.

3.2 Corrections

Please refer to Open AT® Firmware R73a full Release Note (see document [2]) for more information about AT commands related to new features and corrections.

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4 Open AT® OS v6.21 Update

4.1 Open AT® OS ADL API Update

4.1.1 New Features

This release contains no new features.

4.1.2 Corrections

ID	Severity	Description (What/When)	Interface Change
ANO51709	2-medium	When sample application tries to open UART2 when it's not free or to open it in DCE mode then a WCPU reset occurs. Application should return an error.	No
ANO52364	1-high	Second FAX call cannot be handled due to there is no terminal response send from ATI to OAT. Due to this AT commands initiate by ADL are saved in the stack waiting for the answer of first ATA command. ATI should send a terminal response to OAT with a new flag, so that OAT can unblock the queue and the terminal response will not be displayed in the terminal.	No
ANO52550	3-low	RI doesn't function for setting +WRIM=1,2,1000 (i.e. RING [bit:1]) and Open AT application is enabledANO525	No
CUS52826	1-high	If application have set ASYNCHRONOUS mode for I2C or SPI bus, then there is a memory leak when application unsubscribe to the I2C or SPI bus.	No
ANO53516	2-medium	When sample application tries to open UART2 when it's not free or to open it in DCE mode then a WCPU reset occurs. Application should return an error.	No
ANO48936	1-high	Backtrace while FCM subscription, Outgoing data call and 30 tasks running.	No
CUS53478 CUS53454	1-high	The stack size in "adl_InitTasks_t" cannot be declared more than 64K	No

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5 Restrictions & Known Problems

5.1 Open AT® OS Known Problems

ID	Description (What / When)
ANO36363	When an Open AT® application is running, after a reset (AT+CFUN=1), +WIND: 0/13/13/14 indications are returned to external application even if this application doesn't sent AT+WIND=<value>. These indications should not be returned (only internal to Open AT®).
CUS40027	Application is not able to subscribe to AT commands that are subscribed by ADL, ref : "Inner AT commands Configuration" paragraph in ADL Documentation.
ANO36583/ ANO41818	User can't use adl_atCmdSubscribe to subscribe to a command beginning by "ATA", "ATD" or "ATH" when call service is used.
CUS36584/ CUS36366/ CUS41816/ CUS41819	Commands such as ATA, ATH and ATD can not be filtered using the API adl_atCmdSubscribe (), when FCM, Call and/or SIM services are running.
ANO36357/ ANO41811	A GPIO is firstly subscribed as an output, but requiring a polling process. If it is set as an input (using SetDirection), INPUT_CHANGED events are never generated. If it is firstly subscribed as an input, INPUT_CHANGED events are correctly generated, even after a direction change.
CUS36693/ CUS36689/ CUS41832	When AT+CREG? is sent from an external application after subscription to this AT command, +CREG response is received twice because the AT+CREG? is automatically subscribed internally by application. Hence, there are two different subscriptions for the same command. This is an ADL limitation which is specified in chapter 2.4 "ADL limitations" in the ADL user guide.
CUS39061/ CUS41844	RI behavior (configured through AT+WRIM command) is not the same when an Open AT® application is running or not. This behavior should be independent of the application execution.
CUS36708/ CUS41833	Unexpected unsolicited +CREG & +CGREG events are sent by the Wireless CPU® when an embedded application is running and the AT&W command is used.
CUS38906/ CUS38905/ CUS41843	Service SIM of ADL is not in a good state when the AT+CPIN=XXXX commands is sent by the external application too quickly. A workaround is to check the PIN status like ADL (AT+CPIN?), when +SIM PIN is received wait for 1 second in order to let ADL subscribe to SIM event and then verify the PIN code. The +CME ERROR: 811 will disappear.
ANO38485/ ANO41841	When using the CMUX feature, if an application tries to send unsolicited responses too early (e.g. in the adl_main function), these ones should not be displayed on DLC ports, since they are not opened yet. As a workaround, the application should wait for the CMUX ports to be opened (use adl_portIsAvailable).
CUS36364/ CUS41815	An Open AT® application has no way to retrieve the current state of the ATE command on each external port.
ANO36593/ ANO41826	With the External_Storage sample, the chip writing process is not documented. Writing is limited to 32 data bytes, so only up to 32 data bytes can be written in a single AT command operation; all additional bytes will be ignored.

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ID	Description (What / When)
ANO43290	When a task is declared with a really too short value (e.g. 256), the Wireless CPU® resets immediately with a 190 exception.
CUS41433	When the application subscribes to SMS service, if the Wireless CPU® receives a "+CMTI" indication before "+WIND: 16" indication, then the SMS handler is not called and it's not notified for the other SMS received later.
ANO49342	When GPRS service is used in other task than main task, then it doesn't work.
CUS51730/ CUS51731	In RTE mode , adl_bus_read() and adl_bus_write() are not functional. Function call resets Target (backtrace).
ANO50716/ ANO51197/ ANO51205/ ANO51233/ ANO51235	Open Sim Access restrictions
ANO51928	When user is moving and trying to transfer data Backtrace and reset occur
ANO51808	AT&F is not working for AT+IPR after the implementation change in AT+IPR in GR-Plug-in
CUS51366	When module in Fast Idle mode its current consumption depend on DTR pin state
ANO52405	When user tries to use new OS applications with old firmware user is not able to use the application.
ANO52282	When user tries to use parallel bus by using the ADL bus service and chip select pin is CS2 Bus service is not working.
ANO52221	When use the Open SIM access service mnodule got Reset/Backtrace a few seconds after entering the Pin code
ANO53104	Subscribe to the FCM Service and send Data continuealy over UART1, in every 2 seconds execute the CPOF command and loop for 10000 times, then switch back to AT mode. Although adl_fcmSwitchV24State can return OK, ADL_FCM_EVENT_V24_DATA_MODE event cannot be received and it cannot switch back to AT mode
ANO52083	Crash or freeze when performing SPI bus accesses in loop.
ANO52425	Memory leak in ADL library when application calls adl_atSendResponseSpe() function
CUS52894	Using FCM ADL API, there may be cases where data handler is not called until a given number of bytes is received.

5.2 Open AT® TCP/IP and Internet Plug-Ins Restrictions

Please note that the SNMP sample is not provided.

ID	Description (What / When)
DEV36615	When 100 mails are stored in the mail drop, the get List () may result in a reset of the Wireless CPU®.
ANO36804	In some cases, writing on a socket already shut down doesn't cause any error.

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ID	Description (What / When)
ANO35171	When GSM bearer is used, ATH from external terminal stops the bearer link.
CUS39557	GSM data call not handled properly when a TCP data channel is already established.
CUS41717	When AT+WIPCFG=0 is executed to stop the stack, the Wireless CPU® resets if the FTP/SMTP/POP3/HTTP session is active. Work Around: before closing stack using +WIPCFG=0, sockets/sessions should be closed first (using +WIPCLOSE AT command), then bearers should be stopped (using +WIPBR AT command), then bearers should be closed (using +WIPBR AT command) then IP stack can be closed (using +WIPCFG=0 AT command).
ANO47516	[WIP/RTE] RESET when launching an WIP application by RTE using ECLIPSE
ANO49267	Customer may be limited on the number of connexion that can be simultaneously handled.
ANO48818	Cant go back in data mode after +++ when using UART PPP bearer

5.3 Open AT® Security Plug-Ins Restrictions

ID	Description (What / When)
ANO47945	The following options of the GetOpts function don't work correctly or provide unintelligible results: WIP_COPT_PUB_KEY, WIP_COPT_EXT_CRITICAL, WIP_COPT_PUB_KEY_ALGO and WIP_COPT_SIG_ALGO. It is recommended not to use these options.
ANO48185	TLS Ciphers are being used while SSLV3 version is used during channel creation. Though, the channel is created successfully as the client is able to handshake properly with the server but the underlying protocol used is not correct.
ANO50375	In case of big transfer, customer should use smaller buffers or increase the internal SSL write buffer size to send its data

5.4 Open AT® C-GPS Plug-In OPUS I Restrictions

ID	Description (What / When)
DEV36673	Performance of C-GPS in RTE mode are degraded because processing Open AT® application in RTE mode is slower than in target mode.
ANO41489	When the stack is under heavy work loads, one second NMEA data send from Open AT® application to UART1 and USB is lost. This issue is systematic on the sample application (QueryApp) after processing the app several hours.
ANO41514	When the position pinning function is enabled, the core will not unpin the position until the position error of over 20 m between the pinned position and the latest GPS measurement.

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5.5 Open AT® C-GPS Plug-In OPUS III Restrictions

ID	Description (What / When)
ANO47943	Sample QueryApp Aiding - Module reset after AT+ERAID
ANO50115	When QueryApp_Aiding sample is started, if "+ WIND: 15" unsollicited response occurs then aiding data from Server can not be received
ANO48517	When an application tries to switch on "pass-thru" mode, if it changes the UART baud to dot it, then the application tries to subscribe again to GPIOs and writes them. This action causes a Wireless CPU® reset with the chipset Opus III. A workaround to prevent from resetting is to changes the source code as described in the Annex §5
N/A	Samples documents such as readme.html, provided in the plug-in, are in preliminary format, and some responses return by AT commands are different from those indicated in the document.
N/A	with Nanoride hardware; the parameter“OPUS_III_CHIPSET_ePV36” must not be defined; In the QueryApp sample this define must be removed, to be used on Nanoride hardware.

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6 WIP Memory Information

6.1 With ADS Compiler

Details:

	WIP Library	WIPSoft Library
Size	606.4kbytes	120.6kbytes
Max RAM size used	7.66kbytes	4.9kbytes

WIPSoft binary

Binary size: 155.6kbytes

	WIP Library (KB)	WIPSoft Library (KB)	RAM size use by lib+ appli (KB)
RAM size	5.2	4.9	11.19

6.2 With GCC Compiler

Details:

	WIP Library	WIPSoft Library
Size	6381.4 kbytes	822 kbytes
Max RAM size used	X	X

WIPSoft binary

Binary size: 203.3kbytes

	WIP Library (KB)	WIPSoft Library (KB)	RAM size use by lib+ appli (KB)
RAM size	5.2	4.8	13.31

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6.3 With RVDS Compiler

Details:

	WIP Library	WIPSoft Library
Size	585.1 kbytes	102.8kbytes
Max RAM size used	X	X

WIPSoft binary

Binary size: 147.3kbytes

	WIP Library (KB)	WIPSoft Library (KB)	RAM size use by lib+ appli (KB)
RAM size	5.19	4.89	11.08

For more information about how to handle RAM and Flash with Open AT® applications, please refer to documentation [1]

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